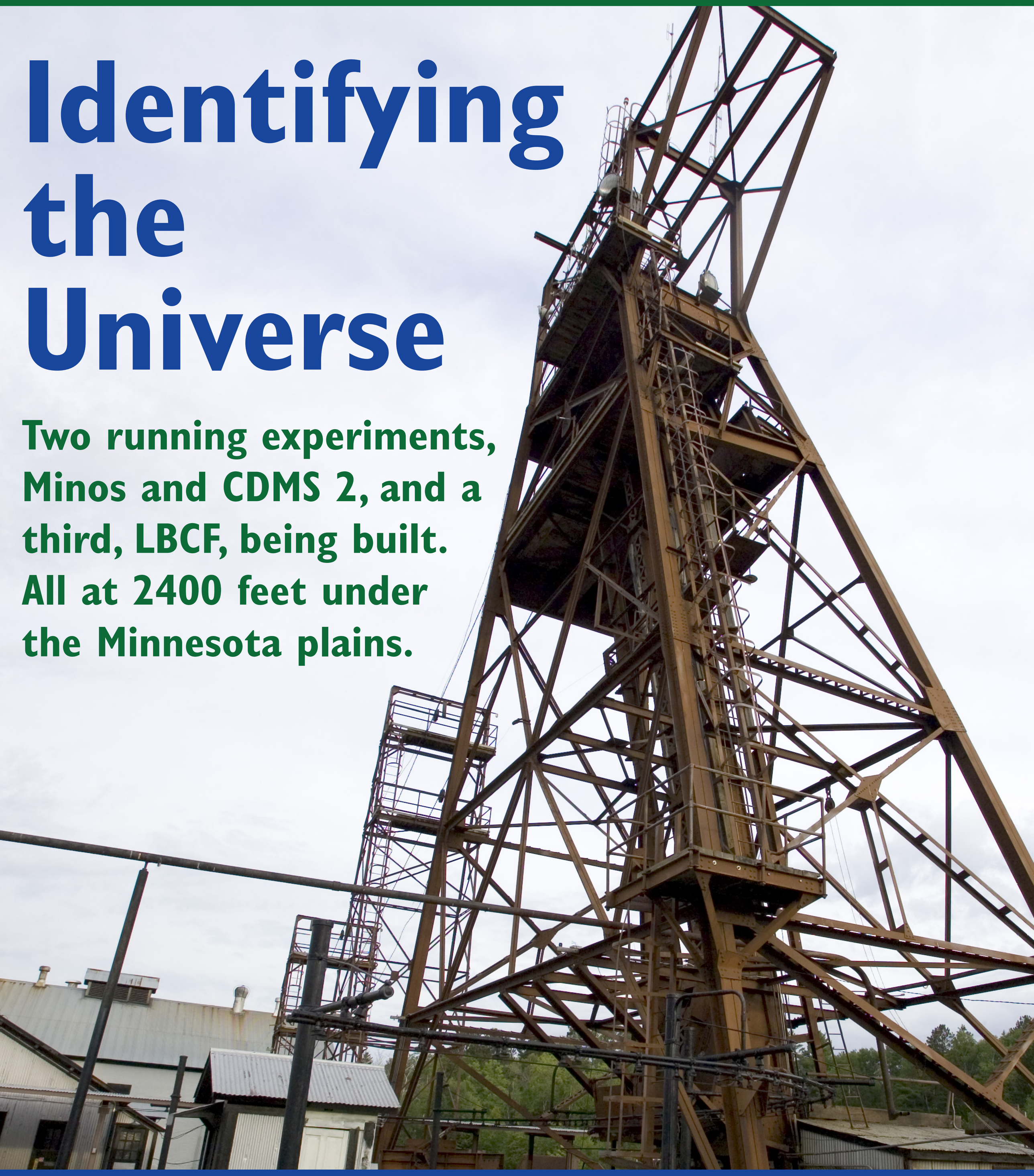
CRYOGENIC DARK MATTER SEARCH (CDMS)

Accelerating Science

Identifying the Universe

Two running experiments, Minos and CDMS 2, and a third, LBCF, being built. All at 2400 feet under the Minnesota plains.



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CRYOGENIC DARK MATTER SEARCH (CDMS)

Accelerating Science

Amongst the various experiments that Erik has worked on, I have always seen them as sculptural in their form. When I went with him to the CDMS experiment in Soudan, Minnesota, my thought was to write music inspired by the place and by the work that the scientists are doing. My time at the bottom of the mine changed my ideas and put me on a path to find a way to make the subatomic world more accessible to people. My thoughts were to combine an aural sensation with a visual sensation so that the average person could relate to a decidely abstract notion that the subatomic world presents.

My dear friend Bill Remmers was very helpful in making this "instrument" possible. Also, the support and enthusiasm I received from the scientists at CDMS was also inspiring. My hope is that by seeing and hearing a representation of actual events, one can then have a sense of their reality.

I am a stone mason and stone carver.
I am also am a musician and composer.
And I have always been inspired by the work my brother, Erik, does in physics.

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CRYOGENIC DARK MATTER SEARCH (CDMS)

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Creating Cosmic Music

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COMPUTATIONAL PHYSICS FOR ACCELERATORS

Accelerating Science

What are accelerators good for?

Medical—Cancer therapy

Materials Science—structure of materials

Biology—resolve fine details of biological systems

Nuclear Physics Reseach—heavy ion, dense matter

Particle Physics Research—Higgs, new particles, dark matter

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COMPUTATIONAL PHYSICS FOR ACCELERATORS

Accelerating Science

Accelerator simulation gives you...?

Faster—design, commissioning

Cheaper—simulate, don't prototype

Better—explore new ideas, enhancements

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QUARKNET

Accelerating Science

Transforming Education

Researching the Potential of the Grid with e-Labs

- Access to computing power and scientific data
- Sharing analysis tools, data and results
- Peer to peer collaboration

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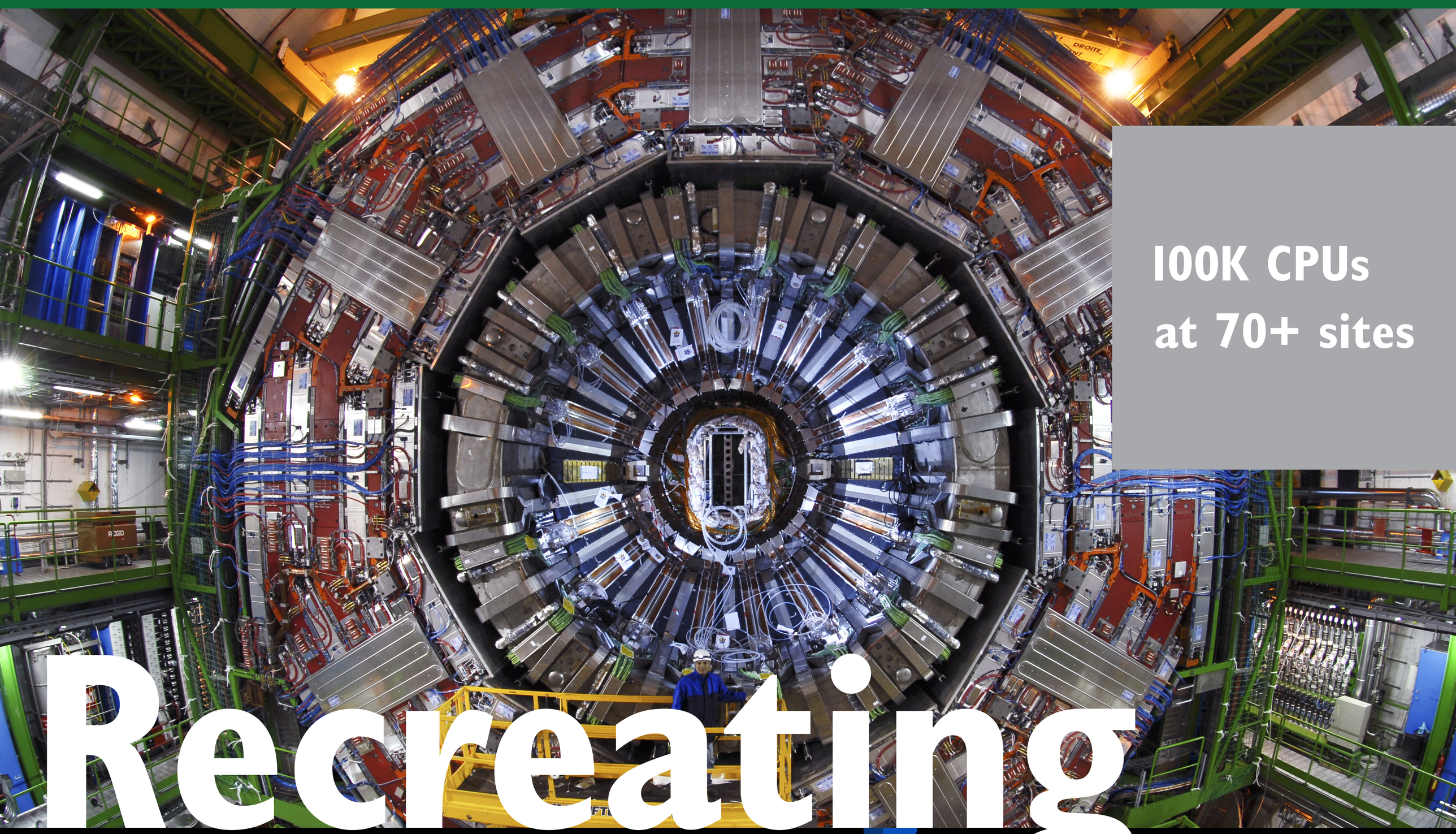
CMS

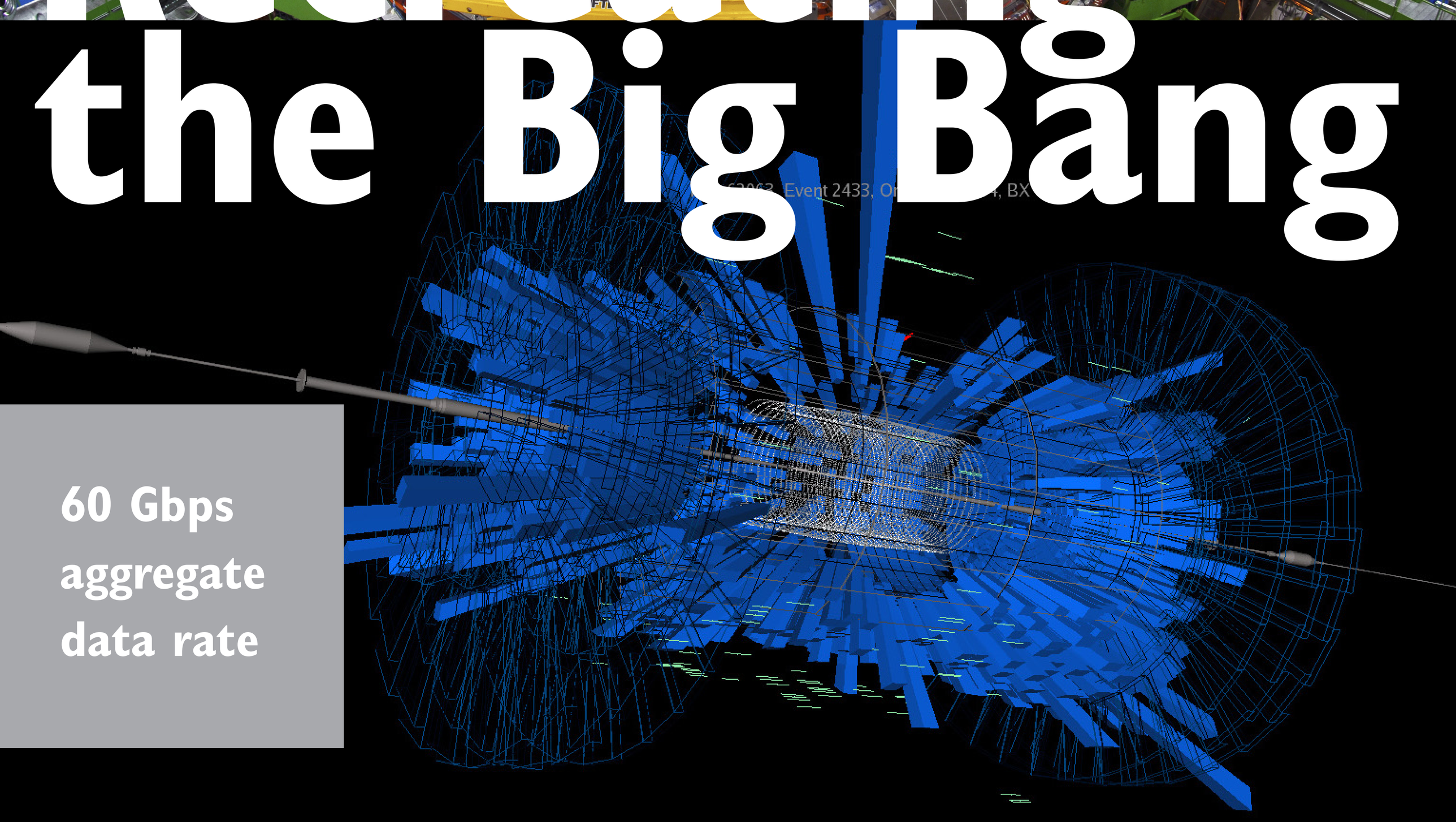
COMPUACT MUON SOLENOID (CMS)

Accelerating Science



100K CPUs at 70+ sites

Recreating the Big Bang



60 Gbps aggregate data rate

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CMS

RUNNING EXPERIMENTS DEPARTMENT (REX)

Accelerating Science

Providing support to to maximize physics output.

CDF
D-ZERO
MINOS

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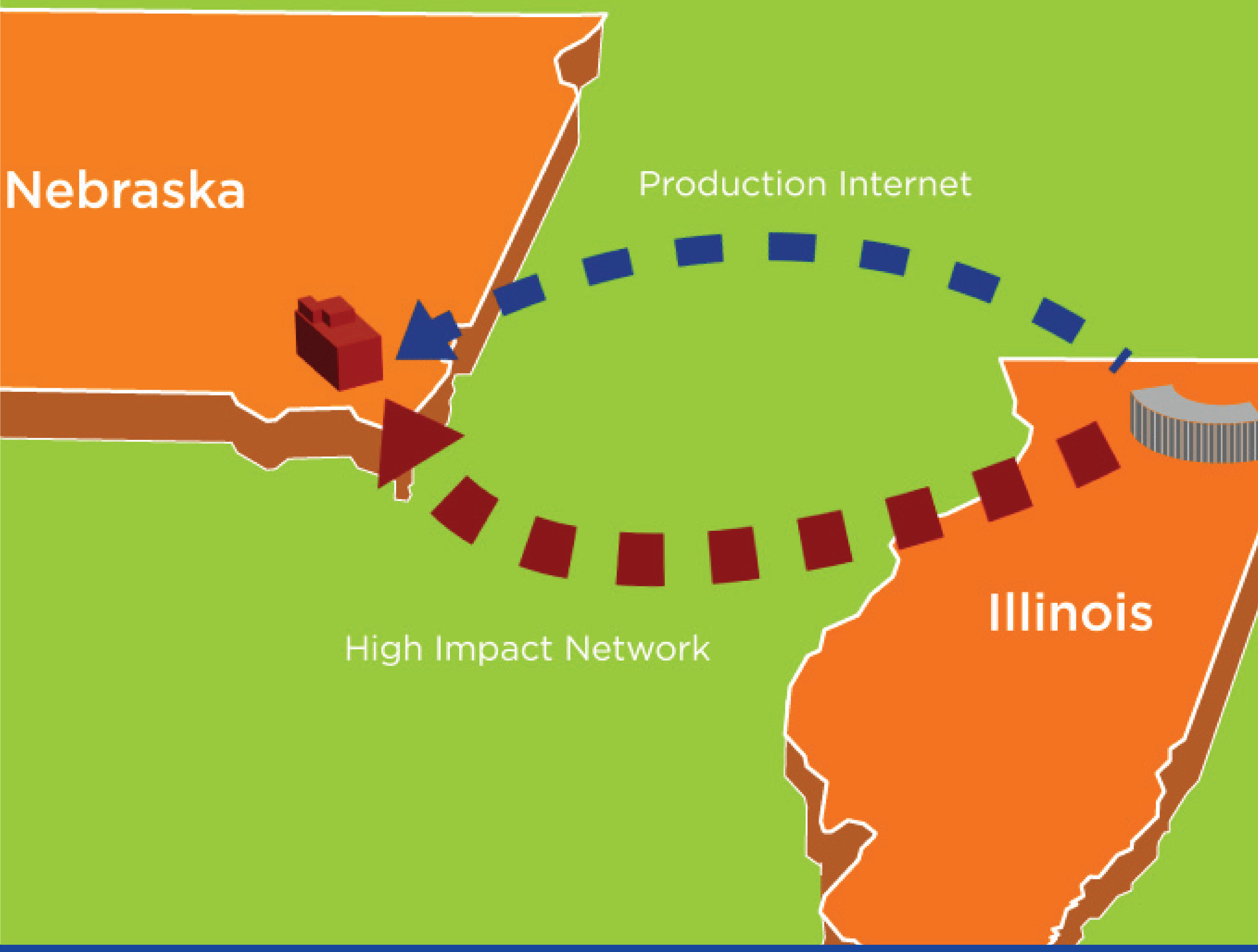
NETWORKING

Accelerating Science

High impact science traffic done dynamically.



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FERMIGRID GROUP

Accelerating Science

Extracting the discovery potential

petascale computing, storage and network infrastructures

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SECURITY

Accelerating Science

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National Science Foundation

OPEN SCIENCE GRID (OSG)

Accelerating Science

Bridging community, campus and national grids.

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Open Science Grid